

TENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference NP-18981-PCT	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/KR03/00445	International filing date (<i>day/month/year</i>) 07 MARCH 2003 (07.03.2003)	(Earliest) Priority Date (<i>day/month/year</i>)
Applicant KOREA ATOMIC ENERGY RESEARCH INSTITUTE et al		

This International search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 4 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing:

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

2. ☐ Certain claims were found unsearchable (See Box I).

3. ☐ Unity of invention is lacking (See Box II).

4. With regard to the title,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the abstract,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the drawing to be published with the abstract is Figure No. 1

☒ as suggested by the applicant.

☐ None of the figures

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

A. CLASSIFICATION OF SUBJECT MATTER**IPC7 A61K 31/133**

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 07 A61K 31/133

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
Korean Patents and applications for inventions since 1975~~Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)~~
STN(CA, Registry), PubMed, KIPASS**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	TATSUYA, SUGAWARA, et al., "Apoptosis Induction by Wheat-flour Sphingoid Bases in DLD-1 Human Colon Cancer Cells", Bioscience, Biotechnology, and Biochemistry, 2002, 66(10), pp.2228-31 See the whole document	1-6
X	NATZKER S., et al., "Cis-4-methylsphingosine phosphate induces apoptosis in neuroblastoma cells by opposite effects on p38 and ERK mitogen-activated protein kinases", Biological Chemistry, 2002, 383(12), pp.1885-94 See the whole document	1-6
X	WISPRIYONO B., et al., "A role for the de novo sphingolipids in apoptosis of photosensitized cells", Experimental Cell Research, 2002, 279(1), pp.153-65 See the whole document	1-6
X	SPIEGEL S, et al., "Sphingosine 1-phosphate as a therapeutic agent", Leukeima, 2002, 16(9), pp.1596-602. See the whole document	1-6

☒ Further documents are listed in the continuation of Box C.☒ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search
28 NOVEMBER 2003 (28.11.2003)Date of mailing of the international search report
28 NOVEMBER 2003 (28.11.2003)

Name and mailing address of the ISA/KR

Korean Intellectual Property Office
920 Dunsan-dong, Seo-gu, Daejeon 302-701,
Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

KIM, Hee Jin

Telephone No. 82-42-481-5412



INTERNATIONAL SEARCH REPORT

International application No.

PCT/KR03/00445

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 97/09975 A1 (BEIERSDORF A.-G.) 20 March 1997 See the abstract and claims	1-6

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/KR03/00445

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 97/09975 A1	20.03.1997	DE 19533330 A1 EP 850056 A1 JP 11512410 T2	13.03.1997 01.07.1998 26.10.1999